

# EXPLORING BEATY BIODIVERSITY MUSEUM AND HERBARIUM

## BIOL/APBI 210

### PART A – UBC Herbarium Database

Select a vascular plant native to British Columbia.

Look up the species you have selected on the UBC Herbarium Database:

<https://herbweb.botany.ubc.ca/herbarium/search.php?Database=vwsp>

**Answer the following questions:**

- What are the scientific and common names of your plant? To what plant family does it belong? What other species belong to the same family?
- How many specimens of the species are in the herbarium collection?
- Based on the database what is the general geographic distribution of the species? Does this match what you find when you search the internet?
- Who collected the most specimens of your plant?
- What is the earliest date the species was collected as indicated in the database? By whom? From where?

### PART B – Watch the Virtual Beaty Museum Tour

(Shona's first attempt with her new video camera....no Oscars for this one!)

Exploration of the herbarium collections (cabinets of the museum).

**Answer the following questions based on museum exhibits (and a little googling).**

- When was the UBC Herbarium established. Who was responsible for establishing it? What else did he do?
- How are vascular plants stored in the museum?
- What is the approximate diameter of the wild type of a sunflower? Where was it domesticated?
- What is bar coding in the biological sense? Name a researcher who bar codes grasses.
- What information is on the label of an herbarium specimen.
- What information is posted on the cabinets.
- In the video, Shona very poorly explained a reason that herbarium collections are important. They contain the specimen for which a plant was given a scientific name (holotype specimen) as well as its description. Why is it valuable to have this record?
- How are plants stored in the collection?
- Why do you think some of the exhibits are covered? (They take them off during when the public has access.)
- What is the approximate diameter of the flower head of wild type of sunflower? Today there are many cultivars with different size heads. Sunflowers are in the Asteraceae family which is characterized with a composit inflorescence...in other words what we know of as a "sunflower" is actually not a single flower, but a collection of many many flowers....and guess what? Sunflower seeds are actually fruits!! We are going to learn all about this and more exciting stuff when we get to Angiosperms! Stay Tuned!!

- k) What is your favourite member of the Mustard family (Family: Brassicaceae = Cruciferae)
- l) To which family do peas and beans belong to? Give an example of a mutual symbiosis that occurs in members of this family and an example of an invasive weed.
- m) Name five members of the rose family (common names are fine).
- n) The Apiaceae (Carrot family) has what type of inflorescence? Describe it.
- o) When was Stumpy born (ie. germinating)? What historical events were going on in England (or another country of your choice) at this time?
- p) Approximately how old was Stumpy when the first residential school was opened in British Columbia. Where was the first residential school in B.C.?
- q) Why is *Thuja plicata* (western red-cedar) considered the tree of life by coastal First Nations People?
- r) Discuss the reasons why the microscope section pictured in the Stumpy display cannot possibly be made from Stumpy.
- s) Where else can you find a slice of Stumpy on campus?
- t) What are two observable impacts of global climate change?
- u) Examine the bark in the display of the Pine Bark Beetle. Notice the patterning of insect damage. The larger galleries are made by adults. This is where the eggs are laid; the larvae make the smaller galleries branching from the larger ones. Explain how another organism impacts infected trees (you'll have to check with Mr. Googler on this). What is the cause of the major infestations of pine bark beetle?
- v) How can museum specimens be used in research about global climate change?

### **PART C – PLANT IN YOUR HOOD**

While you are out for a walk, find a plant that has leaves (or needles) on it.

- a) Take a picture of it to show the leaves and any other distinguishing features (eg. Flowers, etc).
- b) Make a detailed description of the plant.  
Use terminology you've learned in BIOL/APBI 210 such as axillary buds, leaf scars, bark, etc. If you know what it is include its name, otherwise Shona will attempt to identify it for you